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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/065,576

10/31/2002

Jeffrey Thomas Remillard

202-1293

9752

46535

7590

11/30/2004

BIR LAW, PLC/FGTL
45094 MIDDLEBURY COURT
CANTON, MI 48188-3215

EXAMINER

TSAL, CAROL S W

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,576

Applicant(s)

REMILLARD ET AL.

Examiner

Carol S Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 5, 6, and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6 and 11-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 5, 11, 13, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,485,155 to Hibino.

With respect to claims 1, 2, 5, 11, 13, 17, and 19, Hibino discloses a system for detecting an object, comprising: a light source (a semiconductor laser diode 3 shown on Fig. 1) generating a light pulse, said light pulse being emitted (see col. 5, lines 29-32); a light detector (light receiving element 5 shown on Fig. 1) configured to receive a reflection of said pulse (see col. 5, lines 32-35); and, a controller (electronic control circuit (CPU) 9 shown on Fig. 1) operably connected to said light source and said detector, said controller configured to indicate a presence of the object from said received light pulse, said controller further configured to adjust sensitivity for detecting the object based on an elapsed time from said emission (see col. 2, line 61 to col. 3, line 50; col. 5, line 38 to col. 6, line 14; and col. 11, lines 34-42).

As to claim 18, Hibino also discloses an article of manufacture, comprising: a computer

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storage medium (RAM (not shown)) having a computer program encoded therein (see col. 6, lines 15-24) for detecting an object (see col. 5, lines 21-27); code for inducing a light transmitter to emit a light pulse (see col. 5, lines 29-32); code for storing values indicative of a reflection of said light pulse (see col. 5, lines 32-35); code for indicating a presence of the object from said stored values and code for adjusting sensitivity for detecting the object based on elapsed time from said emission (see col. 2, line 61 to col. 3, line 50 and col. 5, line 38 to col. 6, line 14).

As to claim 20, Hibino also discloses a method for detecting an object, the method comprising: emitting a light pulse (see col. 5, lines 29-32); receiving a reflection of the light pulse (see col. 5, lines 32-35); indicating presence of the object when a power level of the received light pulse multiplied by a signal gain that increases with elapsed time from emission is greater than a detection threshold (see col. 2, line 61 to col. 3, line 50 and col. 5, line 38 to col. 6, line 14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hibino in view of U. S. Publication 2003/0222772 to Laufer.

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With respect to claims 6, 12, and 14, Hibino discloses transmitting said light pulse to a light reflector and reflecting said light (see col. 5, lines 29-37).

Hibino does not disclose the reflector being a polymeric light reflector.

Laufer teaches the reflector being a polymeric light reflector (see paragraph 0009).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hibino's method to include the reflector being a polymeric light reflector, as taught by Laufer, in order to essentially isolate signals transmitted/received from environment lights, so as to minimize distortion of the signals (see Laufer, lines 3-6 of paragraph 0009).

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hibino in view of JP 05297141 to Azusazawa et al.

As noted above, with respect to claims 15 and 16, Hibino discloses the claimed invention, except for a near infrared diode laser/a near infrared light detector.

Azusazawa et al. teach a near infrared diode laser/a near infrared light detector (see Constitution, lines 1-8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hibino's method to include a near infrared diode laser/a near infrared light detector, as taught by Azusazawa et al., in order that highly precise distance information by recognizing the image information obtained by a pick-up means, and emitting the reflected light of the light beam projected toward an object can be provided (see Azusazawa et al., Purpose, lines 2-4).

Response to Arguments

7. Applicant's arguments filed October 18, 2004 have been fully considered but they are not persuasive.

Applicants argue that Hibino does not disclose adjusting sensitivity (by increasing or decreasing the gain in this case) based on elapsed time from the emission or elapsed travel time of the emitted pulse as disclosed and claimed by Applicants. The Examiner disagrees with Applicants. The examiner broadly interprets the claimed language differently from Applicant. In addition, since "By decreasing the threshold ($V_{THRESH1}$) over a monitoring period, the sensitivity of system 10 is increased for detecting relatively distant objects that would have a reflection with a relatively small amplitude" as described at paragraph 0056, lines 1-3 of Applicants' Specification, clearly indicates that the sensitivity is increased for detecting relatively distant objects by decreasing the threshold ($V_{THRESH1}$) over a monitoring period; therefore, as set forth above, Hibino does disclose adjusting sensitivity (by increasing or time from the emission or decreasing the gain in this case) based on elapsed elapsed travel time of the emitted pulse (see col. 2, line 61 to col. 3, line 50; col. 5, line 38 to col. 6, line 14; and col. 11, lines 34-42; the control circuit that calculates the distance of the obstacle from the radar system on the basis of the distance data, wherein the control circuit controls a gain of the variable gain amplifier to have a standard sensitivity corresponding to a maximum value of the semiconductor laser beam received by the light receiving element during a first measuring period, and controls the gain of the variable gain amplifier to have its maximum sensitivity during a second measuring period; Although the above-described embodiment controls the gain of the variable

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gain amplifier 13 to take its maximum value to maximize the sensitivity of the semiconductor laser H, it is possible to vary the reference voltage V0 of the comparator 17 so that the reference voltage V0 is lowered sufficiently enough to detect the obstacle).

Applicants argue that combinations of U. S. Patent No. 5,485,155 to Hibino in view of US 2003/0222272 to Laufer, and JP 05297141 to Azusazawa et al. fail to teach or suggest all the features of Applicants' claimed invention because Hibino fails to disclose adjusting sensitivity based on elapsed time from the emission or elapsed travel time of the emitted pulse. The Examiner disagrees with Applicants. As set forth in the art rejection and response to arguments above, Hibino does disclose adjusting sensitivity based on elapsed time from the emission or elapsed travel time of the emitted pulse. Therefore, combinations of U. S. Patent No. 5,485,155 to Hibino in view of US 2003/0222272 to Laufer, and JP 05297141 to Azusazawa et al. clearly disclose the claimed invention.

Applicants argue that Hibino fails to recognize the problem of detecting objects through fog or similar environmental conditions as disclosed by Applicants and fails to suggest a solution similar to Applicants' claimed invention, that as such, there would be no motivation for one of ordinary skill in the art to modify Hibino to adjust sensitivity based on elapsed time as disclosed and claimed by Applicants and no motivation to combine such modified teachings with those of Laufer or Azusazawa et al. It is noted that the features upon which applicant relies (i.e., detecting objects through fog or similar environmental conditions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

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In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.



Carol S. W. Tsai
Patent Examiner
Art Unit 2857

11/15/04